

PSYCHOLOGICAL SKILLS ASSESSMENT AND REFEREE RUGBY SEVENS PERFORMANCE

Mohamad Nizam Nazarudin¹, Hasnol Noordin¹, Pathmanathan K. Suppiah¹, Mohamad Razali Abdullah², Mohd Sofian Omar Fauzee³ & Nagoor Meera Abdullah⁴

¹Universiti Malaysia Sabah, ²Universiti Sultan Zainal Abidin, ³Universiti Utara Malaysia,

⁴Universiti Teknologi MARA

ABSTRACT

This study aims to examine the psychological skills that are commonly used among referees rugby sevens and their relationship with referees' performance. The Psychological Skills Inventory for Sports (Mahoney, Gabriel, & Perkins, 1987) was adapted and modified specifically for use by rugby sevens referees. It was administered to 132 rugby sevens referee (mean age 33.4 ± 1.5 years; 132 males) of the Malaysian Rugby Union (MRU) which has been refereed in 10 rugby sevens tournament in Malaysia. The psychological skills variables employed in the questionnaire included confidence, anxiety management, mental preparation, motivation and concentration. The IRB Referee Sevens Performance Evaluation Form ($r=0.94$) was used to evaluate referee performance. These instruments measure the performance variable that contains the dimensions of control, communication, application of the law and the positioning. The descriptive statistics of the variables are Psychological skills ($M= 120.14$, $SD= 6.97$) and performance ($M= 136.45$, $SD= 4.47$) identified at a moderate level. Findings indicated no significant differences [$F= (3, 72) = .636$, $p>0.05$] in psychological skills across age levels but there are significant differences [$F= (3, 128) = 57.616$, $p<0.05$] across experience levels. Highly experienced referees scored significantly higher in all psychological constructs compared to less experienced referees. Variables that showed strong and positive relationships with performance were anxiety management ($r= .61$), concentration ($r= .57$), confidence ($r= .54$) and motivation ($r= .50$). In conclusion, the psychological skills assessment can improve the efficacy of rugby referees and recommends that referee coaches increase the use of psychological skills in competitions and future training. Researchers should investigate the effectiveness of applied sport psychology interventions in enhancing referee performance in the future.

Keywords: Sports, Psychology, Rugby Referee

Introduction

According to the International Rugby Board (IRB, 2011), there are 5.5 million rugby players in 98 countries. Also stated in the report was a 25% increase in the sport of rugby in South America since 2007. Furthermore, the report also found that 80% of African players were under the age of 20. This clearly shows that the rugby has experienced a rise in popularity in these two continents. The rise in participation was boosted by record funding through strategic investment programs and the inclusion of rugby sevens event as an Olympic sport. The announcement that rugby sevens has been included as one of the events at the Olympic Games in 2016 and 2020 has further increased the popularity of this sport at the international level (IRB, 2010). Rugby sevens has attracted many new fans to the sport due to the speed of its game, its shorter game time and appealing style of play compared to the fifteen rugby game (Cain and Growden, 2006). In the

former, each player's movement and behavior can be clearly observed by the audience during the match.

Conducting a rugby game needs a good referee. The referee is responsible for maintaining the continuity and control of the match (FIBA, 2004), and to ensure a fair game according to the rules and the spirit of resistance (IRB, 2010). The referee is also known as "..... sole judge of fact and law ..." (IRB, 2010) and is expected to apply the laws of the game consistently and without variation. His decision is accepted as final, and the coach or athlete involved in a given situation must face the meted penalty (ies) for not complying with the law (Daniel, 2008). Over and above the earlier mentioned challenging functions of a referee, is also the ability to easily take criticism from sports media (Guillen, 2006), players, coaches, team managers and spectators alike (Rainey et al., 1990; VanYperen, 1998), and accept that mistakes could have been made in decisions making (Anderson, 2009).

A referee's mistake can lead to the loss of economic and social perspective for the team, players and its fans (Guillen, 2003a). It is clear then, that there is a heavy burden borne by the referee to refereeing the match as well as possible as the performance of the referee will affect the game. It must be stated here that referees are not born but are trained to be the arbiter of good and there are factors that can predict the performance of the referee in a rugby match (Greensted, 2000). As such, psychological skills should be given serious attention in the quest to further improve referee performance. A point that has come into greater prominence is the need for more accountability on behalf of the referees for their decisions during particularly stressful games (Mascarenhas et al., 2002). This is further emphasised by Martin et al. (2001) who has found that the mental strain upon a referee is just as taxing as physical stress.

According to studies by Suarez - Arrones et al (2013), the average distance run by a sevens rugby referee is 1665.2 ± 203.5 meters in one game (15.1 ± 0.5 minutes). The fact that the referee cannot be replaced when exhausted during a match contributes to his increased stress level. Following this, a referee's assignments and mistakes can lead to loss of confidence, high anxiety levels and further increased levels of stress on the referee (Taylor and Daniel, 1987; Anshel and Weinberg, 1995; Rainey, 1995a, b). Not surprisingly, this leads to a further swell in the frequency of referee retirement (Balch and Scott, 2007; Titlebaum et al., 2009). Stress among referees has shown a negative influence on mental health, the focus of attention, performance, satisfaction with the profession, and the intention to retire (Taylor et al., 1990; Goldsmith and Williams, 1992; Guillen and Bara, 2004). Rugby referees also reported receiving verbal abuse (Mohamad Nizam et al., 2009) and physical abuse (Rainey and Hardy, 1999) during and after the game.

Problem Statement

The goal of improving the performance of rugby sevens referees in Malaysia to world-class levels rests upon the achievement of the delicate balance between the expectations and challenges that must be shouldered by these referees in line with the Malaysian Rugby Union (MRU). Thus Malaysian rugby sevens referees must possess qualities that meet the criteria set by the International Rugby Board (IRB) for the realization of their hopes. This is in line with the growth of national rugby as a sport at par with world-class international matches. Despite this, disappointingly, the number of Malaysian rugby referees selected by the IRB sevens tournament was reduced to zero representatives in 2010 (Malaysia Rugby Union, 2010).

In this case, further studies should be conducted to identify the relationship between factors that can influence the performance of rugby sevens referees. The results of this study can

be used to develop courses, training programs; assessments and grading systems for rugby sevens referees to analyses their performance during tournaments.

Various psychological variables (e.g. self-efficacy, motivation, anxiety, confidence levels etc.) have not to have significant effects upon performance. Self-efficacy is defined as the belief one has in being able to execute a specific task successfully in order to obtain a certain outcome (Bandura, 1977). Self-efficacy levels have a positive effect on performance both in competitions and training (Silva and Stevens, 2002).

A decrease in Self-Efficacy can change key performance variables such as resurrection, stress and anxiety that may affect performance. Self-Efficacy can help improve the trust and confidence of referees to learn what has been targeted. Similarly, referees who have decided that not sure or wrong, could not identify the breach of the law and failed to control the situation will result in a drop in confidence will affect performance. Then the referee must have confidence that the refereeing any matches. ?

Motivation is used to link learning with individual performance changes. The view that motivation be regarded as one of the psychological factors that influence performance can be supported by the equity theory (Adam, 1963) where individuals claim to be given the same treatment. This theory describes equity as a belief that individuals are treated fairly in relation to each other. Referees should be given fair opportunities to referee and upgrade their refereeing skills. This will then increase the motivation of referees, thus improving their performance. According to Fadil et al. (2005), the effects of inequality will cause individuals to suffer from stress and this will motivate and inspire them to get them equal rights.

The Goal Setting Theory (Locke, 1984) explains that the target is the performance level that every individual is trying to achieve. Achievement of targets indirectly further motivates them to maintain their achievements thus far. If in the process of development, the referee faces difficulties due to inadequate guidance and supervision; the referee must make an effort and try until the target is reached. If targets are not met as the referee fails to improve the grade in national tournaments, the referee's performance will be affected.

According to Locke and Latham (2002), goals affect performance through four mechanisms: 1) the target as a function of lead, 2) target as a given energy function, 3) target affecting persistence, 4) target affecting action indirectly by leading to the rise of emotion and use knowledge and strategies for the assignment. It is important for referees to have their targets so that performance can be maintained. Orlick and Partington (1988), together with others suggest that elite athletes maintain the highest levels of intrinsic motivation throughout their careers. Goal orientation is related to the level of motivation. It has been suggested that high levels of both task and ego orientation in relation to the climax is positive motivation and the highest level of performance (Goudas et al., 1992).

The level of anxiety can affect individual athletes but there is no single optimal level of anxiety that influences the performance of the athletes (Gill, 2000). According to Martens (1977), stress is known as a balance or equality in the application of pressure in behavior and can be assessed in three ways; changes of drive, interference and stimulus. Five sources of stress identified by Kroll (1979) namely, fear of failure, feelings of discomfort, loss of internal control, guilt and the latest physical level may be used as criteria to judge the level of pressure on referees before and during the game.

Gould et al., (1984) found that cognitive anxiety was lowest among those with fewer years of experience and self-confidence of the strongest prediction is related to anyone who has a clear perception of their ability. According to Humara (1999) when performance declines, a psychologist will discuss areas of anxiety in most of his literature review. In sports situations,

individuals who can control anxiety will not have much trouble achieving peak performance (Hardy et al., 1996).

The Inverted U theory was developed in 1908 by Yerkes and Dodson and it is a theory of arousal that considers that optimal performance occurs when the performer reaches an optimal level of arousal. The Inverted U theory is a more appropriate and accurate observation of performance compared to the Drive theory. According to this theory, performance improves when arousal increases until it reaches a point where optimum performance is achieved with the optimal level of arousal. If the stimulus increased at this level, the performance will begin to decline. The Inverted U Theory is one of the earliest models that explain the relationship between arousal and performance (Broadhurst, 1957; Hebb, 1955). This theory states that the rise will increase performance, but if the rise is too high, performance will be affected and become worse. If pressure begins to develop in the individual, but the individual is confident and able to control that pressure, then performance will decrease. Although this theory states decreased performance if individuals feel depressed, it does not represent or take into account individual differences in performance among individuals who are facing the same pressures.

Martens (1977) support the concern that anxiety is interpreted as a threat by an individual. Horn (2002) also highlighted concern regarding the perceived sense of nervousness and tension, which is related to the level of the resurrection. More concerns can be divided into the somatic anxiety and cognitive anxiety. Somatic anxiety refers to symptoms such as sweating, increased heart rate and nervousness. Cognitive anxiety refers to negative concerns about performance, lack of concentration and attention (Horn, 2002). Different observations between successful individuals and individuals who fail are likely a result of their interpretation of cognitive anxiety states.

According to the Reversal Theory (Apter, 1982), individuals with Telic dominance will devote themselves to a successful run, while paratelic dominant individuals think only about the present situation its enjoyment. According to Drive theory, in the early stages of learning skills, increased levels of arousal will result in poor performance quality but as time goes on to allow the mastery of skills such increases of arousal do not hamper, but instead, enhance performance.

In a review, William and Davids (1995) suggest that experience does not necessarily lead to increased psychological skills as individuals themselves may not be exposed to challenging scenarios that contribute to the development of psychological performance (Starkes and Lindley, 1994). Furthermore, there is a lack of studies that examine the differences in the level of psychological skills among respondents of various age groups. The rationale then, to justify the need for this study is that there is a need to investigate age related effects on psychological skills. This research focuses on the relationship between psychological skills and performance among Malaysia's sevens rugby referees.

Research Objective

1. To examine psychological skills and performance level among the Malaysian rugby sevens referees.
2. To indicate differences in psychological skills and performance across age and experience levels among Malaysian rugby sevens referees.
3. To identify relationships between psychological skills and performance among Malaysian rugby sevens referees.

Method

Participants

Malaysian Rugby Union referees (mean age 33.4 + 1.5 years; 132 males) have volunteered to take part as respondents. To determine the sample size of 200 people in referee sevens population, the researcher refers to the determination of sample size tables built by Krejcie and Morgan (1970). A total of 132 respondents were selected at random from ten rugby sevens tournaments held in Malaysia. Power analysis has confirmed that the samples were in accordance with the Alpha = 0.0276, Power = 0.9724, Critical F (4,127) = 2.9040, Lambda = 25.33. A total of 33 people (25.0%) under the age of 30 years, 35 people (26.5%) aged 30 to 35 years, 34 people (25.8%) aged 36 to 40 years and 30 people (22.7%) aged over 40 years. A total of 33 people (25.0%) had refereeing experience between 1 to 5 years, 34 (25.8%) had between 6 to 10 years, another 34 (25.8%) had between 11 to 15 years and while 31 people (23.5%) had refereeing experience for more than 15 years.

Instrument and Data Analyses

This study used the Psychological Skills Inventory for Sports (PSIS R5) questionnaires built by Mahoney et al. (1987) that had been modified by Stone (2007) specifically for rugby referees (PSIS R5 Model Ref). A total of 37 questions were used ($r = 0.865 - 0.898$) and divided into six skills consisting motivation (8 items), confidence (8 items), control anxiety (8 items), mental preparation (6 items), and concentration (7 items), while the team emphasis skill (7 items) was ignored because this study focuses only on the referee and does not include the involvement of the assistant referee. Team Emphasis was excluded as in this study; the referee is seen as an individual. This contrasts with the study done by Stone (2007) which included the assistant referee. The questionnaire consists of two parts, starting with Section A which relates to demography and is followed by Section B, is a questionnaire for psychological skills.

Responses were indicated on a 5-point Likert scale with strongly disagree equated to 0 and strongly agree equated to 5. Items worded negatively (indicating a problem or concern) were transformed by reversing the above mentioned 0-5 format (Mahoney, 1988). IRB Referee Sevens Performance Evaluation Form ($r = 0.94$) was used to evaluate referee performance. These instruments measure the performance variable that contains the dimensions of control, communication, application of the law and the position in a real game. This variable is assessed based on the score marks. Each code is given a maximum of five points if found successfully implemented by the referee. Playing time was 2 halves of 7 minutes each.

Statistical tests used in this study is Mean, Standard Deviation, Percentage, One Way Anova and Pearson Correlation (Refer table 1)

TABLE 1: Instrument and Statistical Tests

No	Objective	Instrument	Statistical Tests
1	To examine psychological skills and performance level among the Malaysian rugby sevens referees.	Questionnaire Performance Evaluation form	Mean, Standard Deviation & Percentage
2	To indicate differences in	Questionnaire	One Way Anova

	psychological skills and Performance Evaluation performance across age level and form experience level among the Malaysian rugby sevens referees.		
3	To identify relationships between psychological skills and Performance Evaluation performance among the Malaysian form rugby sevens referees.	Questionnaire	Pearson Correlation

Procedures

The questionnaire was administered to the referees at their respective tournament locations. Data collection took about two days in each tournament and was held the day before and on the first day of the competition. The respondents were required to fill out the questionnaire a day before the tournament. No problems were encountered in completing either section of the questionnaire or in understanding the nature of the questions. On the first day of the competition, the respondents evaluated their first game using the performance measures form to evaluate the referee's performance in the field by qualified ARFU rugby referee coaches. The approval by the MRU in writing had been obtained prior to the start of the study so that the study could be undertaken with minimum obstacles.

Results

Based on Table 2, motivation (M=27.15) was identified at high levels. Confidence (M=26.76) was indicated at high levels but 61.4% of respondents was at moderate level. Anxiety management (M=25.80) was identified at high levels. Mental preparation was also at a high level with a mean of 21.81, but 82.9% of respondents were at moderate level. Concentration (M=18.64) is also at moderate level with 64.5% of respondents. Overall, psychological skills (M=120.14) identified at a moderate level with 71.2% of respondents.

TABLE 2: Level of Psychological Skills Subscales

Subscales	%	M	SD	Level
Motivation		27.15	3.88	Medium
Low (1.00-13.33)	0.0			
Intermediate (13.34-26.67)	59.8			
High (26.68-40.00)	40.2			
Confidence		26.76	4.18	Medium
Low (1.00-13.33)	0.0			
Intermediate (13.34-26.67)	61.4			
High (26.68-40.00)	38.6			
Anxiety management		25.80	3.29	High
Low (1.00-13.33)	0.0			
Intermediate (13.34-26.67)	76.5			

High (26.68-40.00)	23.5			
Mental preparation		21.81	2.85	High
Low (1.00-10.99)	0.0			
Intermediate (11.00-20.99)	84.8			
High (21.00-30.00)	15.2			
Concentration		18.64	2.52	High
Low (1.00-11.67)	0.0			
Intermediate a (11.68-23.33)	84.8			
High (23.34-35.00)	15.2			
Overall Psychological Skills		120.14	6.97	Medium
Low (1.00-61.67)	0.0			
Intermediate (61.68-123.33)	71.2			
High (123.34-185.00)	28.8			
n=132				

Based on Table 3, Positioning (M=13.52) is at high level but the 54.5% of respondents were at intermediate level. Control (M=13.42) is at high level but 55.3% of respondents were at intermediate level. Communication (M=13.52), is at high level but 56.1% of respondents were at intermediate level. Application of Law (M=96.05) with 55.3% respondents was at intermediate level. Overall, the Performance (M=136.45) with 69.7% respondents was also at intermediate level.

TABLE 3: Level of Performance Subscales

Subscales	%	M	SD	Level
Control		13.42	3.17	High
Low (0.00-6.67)	0.0			
Intermediate (6.68-13.33)	55.3			
High (13.34-20.00)	44.7			
Communication		13.45	3.25	High
Low (0.00-6.67)	0.0			
Intermediate (6.68-13.33)	56.1			
High (13.34-20.00)	43.9			
Positioning		13.52	3.26	High
Low (0.00-6.67)	0.0			
Intermediate (6.68-13.33)	54.5			
High (13.34-20.00)	45.5			
Law Application		96.05	4.40	Intermediate
Low (0.00-50.99)	0.0			
Intermediate (51.00-100.99)	55.3			
High (101.00-150.00)	44.7			
Overall Performance		136.45	4.47	Intermediate
Low (0.00-70.99)	0.0			
Intermediate (71.00-140.99)	69.7			
High (141.00-210.00)	30.3			

n=132

Based on Table 4, ANOVA test results show that levels of all psychological skills subscales between the four age groups were not significantly different [Motivation; $F = (3, 128) = 1.915$, $p = .130$, Confidence; $F = (3, 128) = 2.952$, $p = .055$, Anxiety Management ; $F = (3, 128) = 1.512$, $p = .214$, Concentration; $F = (3, 128) = 1.924$, $p = .129$ and mental preparation; $F = (3, 128) = 1.408$, $p = .243$]. Levels of psychological skills among the four age groups was also not significantly different [$F = (3, 72) = .636$, $p = .593$]. That means that there were no differences overall in the level of psychological skills based on the age of the referees.

TABLE 4: One Way ANOVA Test for comparison of psychology skills level and referees age

Subscales	Age	SS	df	MS	F	P
Motivation	Between Groups	.897	3	.299	1.915	.130
	Within Groups	19.982	128	.156		
	Total	20.879	131			
Confidence	Between Groups	1.271	3	.424	2.952	.055
	Within Groups	18.366	128	.143		
	Total	19.636	131			
Anxiety	Between Groups	.650	3	.217	1.512	.214
	Within Groups	18.342	128	.143		
	Total	18.992	131			
Concentration	Between Groups	.874	3	.291	1.924	.129
	Within Groups	19.391	128	.151		
	Total	20.265	131			
Mental prep.	Between Groups	.564	3	.188	1.408	.243
	Within Groups	17.095	128	.134		
	Total	17.659	131			
Psycho. Skills	Between Groups	.397	3	.132	.636	.593
	Within Groups	26.663	128	.208		
	Total	27.061	131			

n=132

*Sig. Level : $p < 0.05$

Based on Table 5, ANOVA test results show that levels of all psychological skills subscales between the four age groups were significantly different [Motivation; $F = (3, 128) = 12.483$, $p = 0.00$, Confidence ; $F = (3, 128) = 18.987$, $p = 0.00$, Anxiety; $F = (3, 128) = 19.243$, $p = 0.00$, Concentration; $F = (3, 128) = 19.24$, $p < 0.05$, Mental preparation; $F = (3, 128) = 16.960$, $p = 0.00$]. Levels of overall Psychological Skills among the four age groups were also significantly different [$F = (3, 128) = 20.086$, $p = 0.00$]. This means that there were differences in the overall level of psychological skills based on the age of the judges.

TABLE 5: One Way ANOVA Test for comparison of psychology skill level and referees years of experience

Subscales	Age	SS	df	MS	F	P
Motivation	Between Groups	4.726	3	1.575	12.483	.000*
	Within Groups	16.153	128	.126		
	Total	20.879	131			
Confidence	Between Groups	6.047	3	2.016	18.987	.000*
	Within Groups	13.589	128	.106		
	Total	19.636	131			
Anxiety	Between Groups	5.903	3	1.968	19.243	.000*
	Within Groups	13.089	128	.102		
	Total	18.992	131			
Concentration	Between Groups	5.764	3	1.921	16.960	.000*
	Within Groups	14.501	128	.113		
	Total	20.265	131			
Mental prep.	Between Groups	5.652	3	1.884	20.086	.000*
	Within Groups	12.007	128	.094		
	Total	17.659	131			
Psycho. Skills	Between Groups	15.547	3	5.182	57.616	.000*
	Within Groups	11.513	128	.090		
	Total	27.061	131			

n=132

*Sig. Level : $p < 0.05$

This difference is also reflected in the dimensions of motivation, confidence, anxiety control, concentration and mental preparation where those exceeding 15 years' experience surpassed the group with 11 to 15 years' experience, while the group with 6 to 10 years' experience was better than their counterparts with 1 to 5 years' experience. This difference is also reflected in the overall level of psychological skills where, the group with over 15 years' experience had the best psychological skills. Similar results can be seen, showing the experience has a positive effect on psychological skills across age groups.

In table 6, the inter-correlation analysis shows a strong relationship between motivation ($r = .50$), confidence ($r = .54$), control of anxiety ($r = .61$) and concentration ($r = .57$) and referee performance. Mental preparation ($r = .48$) showed a moderate correlation and also has a moderate correlation with referee performance. All these correlations are positive and significant at $p < .05$. The findings showed a strong correlation between psychological skills and referee performance ($r = .67$; $p < .05$).

TABLE 6: Correlations between psychology skills and referees performance.

Subscales	Performance
Motivation	Pearson Correlation .502**
	Sig. (2-tailed) .000
	N 132

Confidence	Pearson Correlation	.544**
	Sig. (2-tailed)	.000
	N	132
Anxiety	Pearson Correlation	.610**
	Sig. (2-tailed)	.000
	N	132
Concentration	Pearson Correlation	.565**
	Sig. (2-tailed)	.000
	N	132
Mental prep.	Pearson Correlation	.479**
	Sig. (2-tailed)	.000
	N	132
Psycho. Skills	Pearson Correlation	.673**
	Sig. (2-tailed)	.000
	N	132

** sig. level: $p < 0.01$ (2-tailed).

Findings

Although there are no studies that examine the psychological skills among rugby sevens referee, this study found that the dimensions of motivation, confidence and mental preparation are at a high level. Meanwhile management of anxiety, concentration and overall dimensions of psychological skills are at an intermediate level. The performance of rugby sevens referees in this study is also at an intermediate level. Eklund (1996), Orlick & Parlington (1988), and; Privette and Bundrick (1997) reveal that successful professional individuals enjoy the fruits of mental skills higher than their counterparts. Findings also find coping skills, confidence, goal selection, set anxiety and mental imaging use is associated with better performance (Durand-Bush et al., 2001; Fletcher and Hanton, 2001; Gould et al., 1999; William and Krane, 2001; and Zaichowsky and Baltzell, 2001).

The findings show that referees, regardless of age have the same level of psychological skills. These findings are consistent with the literature in most books of applied psychology (Anderson, 2000) which found that there were real differences between psychological skills acquisition and application of psychological skills is based on successful individuals and not age. In addition to elite athletes, elite referees are also aware of the importance of psychological skills regardless of age in particular. Previous studies suggests that experience does not necessarily lead to improved psychological skills because the referee himself might not have been exposed to challenging scenarios; as the amount and variability of game situations contribute to the development of psychological performance. (William and Davids, 1995; Starkes and Lindley, 1994). However, this study found that there were significant differences between the level of psychological skills and performance based on years of experience as a referee. These findings support the study of Gould et al (1984) who found that most respondents with low cognitive anxiety were those who had more experience, and the strongest predictor of self-esteem is related to those who have a clear perception of their ability.

Comparative studies between elite and non-elite athletes found that elite athletes are more motivated to succeed in their respective sports ; more confident; experience fewer problems with anxiety ; rely more on internal reference and kinesthetic mental preparation; are more focused on their own performance against their team and even managed to keep their concentration intact (Mahoney et al., 1987; Mahoney, 1989). Most of the researchers are also able to distinguish the success of elite athletes from non-elite athletes based on their psychological skills (Grossarth-Maticek et al., 1990; Meyers et al., 1996, Cox et al., 1996).

The analysis of the relationship between psychological skills and performance levels showed a significantly strong and positive relationship. The findings are in line with a combination of the theory from Bandura (1977), the Equity Theory (Adam, 1963), the Goal Setting Theory (Locke, 1984) and the Reversal Theory (Apter, 1982). This finding was supported by Morgan and Pollock's study (1977) Morgan, (1979); May et al., (1985) who also found strong and positive relationship between psychological skills with sports performance. Referees need to utilise psychological skills to referee matches successfully (Weinberg and Richardson, 1990; Kaissidid-Rodafinos et al., 1997; Guillen, 2006) to improve performance (Crust, 2007).

Conclusion

A competent referee has a high level of mental functioning at all times and is able to identify infringements and violation of the laws of the game. International referees have good refereeing technique and physical condition as well as sufficient experience, and have developed psychological skills throughout their careers. This is likely due to their optimal mental functioning during match handling. However, psychological skills can still be improved just as technical and physical skill. Psychological skills will help the referees to improve their performance, especially in critical situations where they may face problems on the field. The findings of this study suggest that experienced and less-experienced referees differ in their use of psychological skills to cope with their experiences of symptoms associated with competitive anxiety. Specifically, less-experienced performers primarily use relaxation strategies to reduce anxiety intensity while experienced referees appear to maintain intensity levels and adopt a combination of psychological skills to interpret symptoms as facilitative.

These study findings suggest that experienced referees and less experienced referees use psychological skills to handle competitive anxiety. Generally, referees with less experience use relaxation strategies to reduce the intensity while their experienced counterparts will maintain the level of intensity by applying a combination of psychological skills to interpret the resulting symptoms. A systematic training and a stringent selection process of referees are essential to achieve the desired results. Traditionally, training and selection processes often only involve physical and technical preparation. Referees, who are well acquainted with the laws of the game, are able to interpret and use the correct interpretation, are in good physical condition, maintain good positioning at all times and have a good understanding with the assistant referee to facilitate effective decision making during matches. However, these features may not be sufficient to guarantee a good level of refereeing if the referee is not accompanied by other psychological traits that can contribute to achieving high levels of refereeing performance. Referees may be exposed to chronic and acute stress which can damage their health and even interfere with the quality of their performance (Alonso - Arbiol, Falco, Lopez, Ordaz and Ramirez, 2005).

Experienced referees believe there is a series of psychological skills that distinguish the most successful referees from their lesser peers and that these skills are between 50% to 70% responsible for the performance of the referee (Weinberg and Richardson, 1990). Psychological

skills require specific preparation; is often not given adequate attention before refereeing duties of which less referees really paying attention. Many authors have emphasized that the psychological skills used by successful athletes, namely concentration, confidence, and ability to make decisions, effective interpersonal communication skills and self-control, should be included as well as practiced in training sessions. The ability to withstand various stress factors that prompt successful refereeing can be the basis of selection for referees recommended to international games. It is also suggested rugby referee coaches increase the use of psychological skills in competitions and future training of their referees.

References

- Adams, J. S. (1963). Toward an understanding of inequity. *Journal of Abnormal and Social Psychology*, 67: 422-463.
- Alonso-Arbiol, Falcó, F., López, M., Ordaz, B., & Ramírez, A. (2005). Development of a questionnaire for the assessment of sources of stress in Spanish soccer referees. *Ansiedad y Estrés*, 11(2-3), 175-188.
- Anderson, M. A. (2000). *Doing sport psychology*, Champaign, IL: Human Kinetics
- Apter, M. J., (1982). *The Experience of Motivation: The theory of psychological reversal*. London: Academic Press.
- Balch, M. J., & Scott, D. (2007). Contrary to popular belief, referees are people too! Personality and perceptions of officials. *Journal of Sport Behavior*, 30, 20-30.
- Bandura, A. (1977b). Self-efficacy: Toward a unifying theory of behavioral change. *Psychology Revision*, 84: 191–215.
- Broadhurst, P. L. (1957). Emotionality and the Yerkes-Dodson Law. *Journal of Experimental Psychology*, 54, 345-352.
- Cain & Growden (2006). *Rugby Union for Dummies: UK Edition*. 2nd Ed. John Wiley & Sons.
- Cox, R. H., Zhan, L., & Yi Jun, Q. (1996). Psychological skills of elite Chinese athletes. *International Journal of Sport Psychology*, 27(2), 123-132.
- Crust, L. (2007). Mental toughness in sport: A review. *International Journal of Sport and Exercise Psychology*, 5(3), 270-290.
- Daniel, F. (2008). *Always lead with an open hand not a pointed finger*. <http://www.kidsfirstsoccer.com/referee.htm> Printed 10th September (2013).
- Durand-Bush, N., Salmela, J. H., & Green-Demers, I. (2001). The Ottawa Mental Skills Assessment Tool (OMSAT-3*). *The Sport Psychology*, 15, 1-19.
- Eklund, R. C. (1996). Preparing to compete: A season-long investigation with collegiate wrestlers. *The Sport Psychology*, 10, 111-131.
- Fadil, P. A., Williams, R. J., Limpaphayom, W., & Smatt, C. (2005). Equity or equality? A conceptual examination of the influence of individualism/collectivism on the cross-cultural application of equity theory. *Cross Cultural Management: An International Journal*, 12(4), 17-35.
- FIBA: Fédération Internationale de Basketball Federation. (2004). *Official basketball rules (2004: Referees' manual for two-person officiating*. Paris, France: FIBA.
- Fletcher, D., & Hanton, S. (2001). The relationship between mental skill usage and competitive anxiety responses. *Psychology of Sport and Exercise*, 2(2), 89-101.
- Gill, D. L. (2000). *Psychological dynamics of sport and exercise* 2nd edition. Champaign, IL: Human Kinetics.

- Goldsmith, P. A., & Williams, J. (1992). Perceived stressors for football and volleyball officials from three rating levels. *Journal of Sport Behavior*, 15(2), 106–118.
- Fox, K., Goudas, M., Biddle, S., Duda, J., & Armstrong, N. (1994). Children's task and ego goal profiles in sport. *British Journal of Educational Psychology*, 64(2), 253-261.
- Goudas, M., Fox, K., Biddle, S., & Armstrong, N. (1992). Children's task and ego goal profiles in sport: Relationship with perceived competence, enjoyment and participation. 10 (6), 606-607.
- Gould, D., Guinan, D., Greenleaf, C, Medbury, R., & Peterson, K. (1999). Factors affecting Olympic performance: Perceptions of athletes and coaches from more and less successful teams. *Sport Psychologist*, 13(4), 371-394.
- Gould, D., Petchlikoff, L., & Weinberg, R. S. (1984). Antecedents of, temporal changes in, and relationships between CSAI-2 subcomponents. *Journal of Sport Psychology*, 6(3), 289-304.
- Guillen, F. (2003a). Current overview of the study of refereeing and sports judging from a psychological approach. In *Psicología del Arbitraje y el Juicio Deportivo*, ed. F. Guillén Barcelona: Inde). Pp. 7–24.
- Guillen, F. (2003b). Effectiveness characteristics required from referees and sports judges. In *Psicología Del Arbitraje y el Juicio Deportivo*, ed. F. Guillén Barcelona: Inde). Hlm. 55–75.
- Guillen, F. (2006). The psychology of refereeing and judging in sports. In *Deporte y Psicología*, eds. E. Garcés de los Fayos, A. Olmedilla, and P. Jara Murcia: Diego Marín). pp. 667–684.
- Guillen, F., & Bara, M. (2004). Trait and state anxiety among referees of different sports and nonreferees. *Revista de Entrenamiento Deportivo*. 18, 19–25.
- Grossarth-Maticek, R., Eysenck, H. J., Rieder, H., & Rakic, L. (1990). Psychological factors as determinants of success in football and boxing: the effects of behaviour therapy. *International Journal of Sport Psychology*, 21, 237-255.
- Greensted, R. (2004). *The RFU: Rugby Union Referee's Manual*. 2nd Ed. London: A7C Balck Pub. Ltd.
- Hardy, I., Jones, G. & Gould, D., (1996). *Understanding Psychological Preparation for Sports: Theory and Practice of Elite Performers*. Chichester: Wiley and Sons.
- Hebb, D. O. (1955). Drives and the CNS (conceptual nervous system). *Psychological review*, 62(4), 243.
- Horn, T. H., (2002). *Advance in Sport Psychology*, Human Kinetics Pub. Inc
- Humara, M. (1999). *The Relationship between anxiety and performance: A Cognitive-behavioral perspective*. <http://www.athleticinsight.com>. Printed 10 September (2013).
- IRB. (2008). *IRB Sevens Referee Evaluation*. Dublin: International Rugby Board
- IRB. (2009). <http://www.irb.com/training/programmes/officials/index.html>. Printed 10 September (2013).
- IRB. (2010). *Law of the Games Rugby Union*. Dublin: International Rugby Board.
- IRB. (2011). 2010/11 HSBC Statistical Review Wellington and Las Vegas Sevens World Series. *IRB Game Analysis*. Slaid 3 & 4.
- Jones, G., & Hardy, L., (1990). *Stress and Performance in Sport*, Wiley, Chichester.
- Kaissidis-Rodafinos A., Anshel M. H., & Porter A. (1997). Personal and situational factors that predict coping strategies for acute stress among basketball referees. *Journal of Sports Sciences*, 15(4), 427–436.
- Krejcie, R. V., & Morgan D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30 (3):607-610
- Malaysia Rugby Union. (2010). *Referee MRU and Pathway Referee MRU*. Slide IRB Educator.

- Kroll, W. (1979). The stress of high performance athletics. In P. Kavora & J. V. Daniel (eds.), *Coach, Athlete and Sports psychologists*. pp. 211-219. Champaign, IL: Human Kinetics.
- Locke, E. A. (1984). Inside the criminal mind review. *Objectivist Forum*. 5(2): 8-15.
- Locke, E. A., dan Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation. *Journal of American Psychologist*, 57(9), 705-717.
- Intyre, T. M., Mahoney, C., & Moran, A. (1998). Professional sport psychology in Ireland. *The Irish Journal of Psychology*, 19(4), 504-515.
- MacIntyre, T., Mahoney, C., & Moran, A. (1998). Professional sport psychology in Ireland. *Irish Journal of Psychology*. 19: 504-515.
- Mahoney, M. J. (1989). Psychological predictors of elite and non-elite performance in Olympic weightlifters. *International Journal of Sport Psychology*, 20(1), 1-12.
- Mahoney, M. J., Gabriel, T. J. & Perkins, T. S. (1987). Psychological skills and exceptional athletic performance, *The Sport Psychologist*, 1(3), 181-189.
- Martin, J., Smith, N., Tolfrey, K. & Jones, A. M. (2001). Activity analysis of English premiership rugby football union refereeing. *Ergonomics*, 44(12), 1069-1075.
- Martens, R. (1977). *Sport Competition Anxiety Test*. Champaign, IL, Human Kinetics.
- Mascarenhas, D. R., Collins, D., & Mortimer, P. (2002). The Art of Reason versus the Exactness of Science in Elite Refereeing: Comments on Plessner and Betsch. *Journal of Sport & Exercise Psychology*, 24(3), 328-333.
- May, J. R., Veach, T., L., Reed, M., W., dan Griffey, M. S. (1985). A psychological study of health, injury and performance in athletes on the US alpine ski team. *Physician and Sports Medicine*, 13(10), 111-115.
- Meyers, M. C., LeUnes, A., dan Bourgeois, A. E. (1996). Psychological skills assessment and athletic performance in collegiate rodeo athletes. *Journal of Sport Behavior*, 19(2), 132-145.
- Mohamad Nizam Nazarudin, MSO-Fauzee dan Anuar Din. (2009). Malaysian Rugby Referees Perception on the Athletes, Coaches, and Spectators Misconduct: A Case Study. *European Journal of Social Sciences*, 7(4), 102-106
- Morgan. W., P.,(1979) *Prediction of performance in athletes*. In coach, athlete and the Sport psychologist edited by P. Klavora and J. V. Daniel), pp. 172-186, Champaign, IL: Human Kinetics.
- Morgan, W. P., dan Pollock, M. L., (1977). Psychological characterization of the elite distance runner, *Annals of the New York Academy of Sciences*, 301(1), 382-403.
- Murphy, S., & Tammen, V. (1998). In search of psycholological skills. In *Advances in Sport and Exercise Psychology Measurement* edited by J. L. Duda), pp. (195-209). Morgantown, WV: Fitness Information Technology.
- Orlick, T & Partington. J. (1988). Mental links to excellence. *The Sport Psychologist*, 2(2), 105-130.
- Privette, G., & Bundrick, C. M. (1997). Psychological processes of peak, average, and failing performance in sport. *International Journal of Sport Psychology*, 28(4), 323-334.
- Rainey, D., & Hardy, L. (1999). Sources of stress, burnout and intention to terminate among Rugby Union Referees. *Journal of Sports Sciences*, 17, 797-806.
- Rainey, D., Schweickert, G., Granito, V., & Pullella, J. (1990). Fans' evaluations of major league baseball umpires' performances and perceptions of appropriate behaviour toward umpires. *Journal of Sport Behavior*, 13(2), 122-129
- Salmela, J. H., Monfared, S. S., Mosayebi, F., & Durand-Bush, N. (2009). Mental skill profiles and expertise levels of elite Iranian athletes. *International Journal of Sport Psychology*, 40(3), 361-373.

- Silva, J. M. & Stevens, D. E. (2002). *Psychological Foundations of Sport*. Allyn dan Bacon. Boston; USA.
- Starkes, J. L., & Lindley, S. (1994). Can we hasten expertise by video simulation? *Quest*, 46(2), 211-222.
- Stone, M. (2007). *Examination of psychological strengths and Weaknesses of an elite rugby league referee*. NSW: ARLRA
- Suarez-Arrones, L., Calvo-Lluch, Á., Portillo, J., Sánchez, F., & Mendez-Villanueva, A. (2013). Running Demands and Heart Rate Response in Rugby Sevens Referees. *The Journal of Strength & Conditioning Research*, 27(6), 1618-1622.
- Taylor, A. H., Daniel, J. V., Leith, L., & Burke, R. J. (1990). Perceived stress, psychological burnout and paths to turnover intentions among sport officials. *Journal of Applied Sport Psychology*, 2(1), 84-97.
- Taylor, A. H., & Daniel, J. V. (1987, April). Sources of stress in soccer officiating: An empirical study. In *Science and football: Proceedings of the first world congress of science and football* (pp. 538-544).
- Titlebaum, P. J., Haberlin, N., & Titlebaum, G. (2009). Recruitment and retention of sports officials. *Recreational Sports Journal*, 33(2).
- VanYperen, N. W. (1998). Predicting stay/leave behavior among volleyball referees. *Sport Psychologist*, 12, 427-439.
- Weinberg, R. S., & Richardson, P. A. (1990). *Psychology of Officiating*. Champaign, IL: Leisure Press.
- Williams, J. M. & Krane, V. (2001). Mental characteristics of peak performance. In Williams, J. M. (Ed.), *Applied sport psychology: Personal growth to peak performance* 4th (ed.), pp. 162-178. Mountain View, CA: Mayfield.
- Williams, A. M., & Davids, K. (1995). Declarative knowledge in sport: A by-product of experience or a characteristic of expertise. *Journal of Sport and Exercise Psychology*, 17, 259-273.
- Yamhill, S., & McLean, G. N. (2001). Theories supporting transfer of training. *Human Resource Development Quarterly*, 12(2), 195-208.
- Zaichowsky, L. D., & Baltzell, A. (2001). Arousal and performance. In R. N. Singer, H. A. Hausenblas, & C. M. Janelle (Eds.). *Handbook of sport psychology*, New York: John Wiley & Sons 2nd (Ed). 319-339.